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## Overweight Children and Youth

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### Headline

More than one in seven children was overweight in the United States in 1999-2000, triple the rate of the 1960s. ([See Figure 1](#))

### Importance

Children who are overweight are at an increased risk of developing type 2 diabetes, cardiovascular problems, orthopedic abnormalities, gout, arthritis, and skin problems.<sup>1</sup> Also, being overweight is likely to negatively affect children's social and psychological development, and it has been linked to the premature onset of puberty.

Moreover, the health threats posed by being an overweight child can be long lasting. Children and adolescents who are overweight are at risk for becoming overweight adults. Overweight adults face many problems due to their weight such as decreased productivity, social stigmatization, high health care costs, and premature death.<sup>2</sup> In addition, overweight adults are at increased risk for type 2 diabetes, coronary heart disease, elevated blood pressure, stroke, respiratory problems, gallbladder disease, osteoarthritis, sleep apnea, and some types of cancer.<sup>3</sup> Given the seriousness of the health consequences associated with being overweight, and the rate of increase in the past few decades, the Surgeon General has declared overweight prevalence in children and adolescents "a major public health concern."<sup>4</sup>

### Trends

The percentage of children and adolescents who are overweight has tripled in the past thirty years, with increases continuing through the 1990s. More than 15 percent of children ages 6 to 19 were overweight in 1999-2000. ([See Figure 1](#))

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### Differences by Gender

Overall, boys and girls are about equally likely to be overweight. However, some differences exist within racial and ethnic subgroups. Among those ages 12-19 of Mexican background, boys are more likely than girls to be overweight. Among black adolescents of the same age, girls are more likely than boys to be overweight. ([See Table 1](#))

### Differences by Race and Ethnicity

Among adolescent boys and girls ages 12-19 in 1999-2000, black non-Hispanics and those from a Mexican background were substantially more likely to be overweight than white non-Hispanic youth. ([See Figure 2](#)) Among children ages 6-11, Mexican boys are significantly more likely to be overweight than both black non-Hispanic and white non-Hispanic boys. ([See Table 1](#))

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### State and Local Estimates

2001 estimates are available for high school students (grades 9-12) by grade, sex, and race/ethnicity for selected states and cities from the Youth Risk Behavior Survey (YRBS) at <http://www.cdc.gov/mmwr/preview/mmwrhtml/ss5104a1.htm#tab35>

### International Estimates

None available

### National Goals

Through its *Healthy People 2010* initiative, the federal government has set a national goal to reduce the number of overweight children to 5 percent from a 1988-1994 baseline level of about 11 percent. To reach this goal, the Federal Drug Administration and The National Institutes of Health are encouraging schools and communities to educate parents and children about the importance of a healthy diet and physical activity.

More information available at:

[http://www.health.gov/healthypeople/document/html/uih/uih\\_4.htm#overandobese](http://www.health.gov/healthypeople/document/html/uih/uih_4.htm#overandobese)

### What Works: Programs that May Influence this Indicator

None available at this time.

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### Research References

<sup>1</sup>Gidding, Samuel, Rudolph Leibel, Stephen Daniels, Michael Rosenbaum, Linda van Horn, and Gerald Marx. "Understanding Obesity in Youth." American Heart Association Medical/Scientific Statement, 1996. <http://circ.ahajournals.org/cgi/content/full/94/12/3383>

<sup>2</sup>U.S. Department of Health and Human Services. *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*. [Rockville, MD]: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General; [2001]. Available from: U.S. GPO, Washington. <http://www.surgeongeneral.gov/library>

<sup>3</sup>U.S. Department of Health and Human Services. *Healthy People 2010. 2nd ed. With Understanding and Improving Health and Objectives for Improving Health. 2 vols.* Washington, DC: U.S. Government Printing Office, November 2000. <http://www.health.gov/healthypeople/default.htm>

Gidding, Samuel, Rudolph Leibel, Stephen Daniels, Michael Rosenbaum, Linda van Horn, and Gerald Marx. "Understanding Obesity in Youth." American Heart Association Medical/Scientific Statement, 1996. <http://circ.ahajournals.org/cgi/content/full/94/12/3383>

<sup>4</sup>U.S. Department of Health and Human Services. *The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity*. [Rockville, MD]: U.S. Department of Health and Human Services, Public Health Service, Office of the Surgeon General; [2001]. Available from: U.S. GPO, Washington. <http://www.surgeongeneral.gov/topics/obesity/>

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### Definition

Overweight is defined as body mass index (BMI) at or above the sex- and age-specific 95th percentile BMI cutoff points. For example a 10-year-old boy who is 4 feet 7 inches tall and weighs 96 lbs. is overweight.

Body mass index is expressed as weight (in pounds) divided by height squared (in inches), all multiplied by 703. For example, a person who is six feet 2 inches tall and weighs 200 pounds has a BMI of 25.7, which would qualify as overweight in an adult.

BMI age-for-growth charts for the United States are available at <http://www.cdc.gov/nccdphp/dnpa/bmi/bmi-for-age.htm>

#### Data Source

Single-race estimates for white non-Hispanic and black non-Hispanic from: National Center for Health Statistics. (2003). *Health United States, 2003 with Chartbook on Trends in the Health of Americans*. National Center for Health Statistics. 2003. Table 69. See <http://www.cdc.gov/nchs/data/hus/tables/2003/03hus069.pdf>

All other data from: National Center for Health Statistics. *Health, United States 2002 with Chartbook on Trends in the Health of Americans*. Hyattsville, Maryland: 2002: Table 71. See <http://www.cdc.gov/nchs/hus.htm>

#### Raw Data Source

National Health and Nutrition Examination Survey III (NHANES III)  
<http://www.cdc.gov/nchs/nhanes.htm>

#### Approximate Date of Next Update

2004

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**Table 69. Overweight children and adolescents 6–19 years of age, according to sex, age, race, and Hispanic origin: United States, selected years 1963–65 through 1999–2000**

[Data are based on physical examinations of a sample of the civilian noninstitutionalized population]

| Age, sex, race,<br>and Hispanic origin <sup>1</sup> | 1963–65<br>1966–70 <sup>2</sup> | 1971–74 | 1976–80 <sup>3</sup> | 1988–94 <sup>4</sup> | 1999–2000 <sup>4</sup> |
|---|---------------------------------|---------|----------------------|----------------------|------------------------|
| Percent of population (standard error)              |                                 |         |                      |                      |                        |
| 6–11 years of age                                   |                                 |         |                      |                      |                        |
| Both sexes <sup>5</sup>                             | 4.2                             | 4.0     | 6.5                  | 11.3 (1.0)           | 15.3 (1.7)             |
| Boys  | 4.0                             | 4.3     | 6.6                  | 11.6 (1.3)           | 16.0 (2.3)             |
| Not Hispanic or Latino:                             |                                 |         |                      |                      |                        |
| White only  | ---                             | ---     | 6.1                  | 10.7 (2.0)           | *11.9 (3.0)            |
| Black or African American only                      | ---                             | ---     | 6.8                  | 12.3 (1.4)           | 17.6 (2.8)             |
| Mexican   | ---                             | ---     | 13.3                 | 17.5 (2.4)           | 27.3 (3.1)             |
| Girls <sup>6</sup>                                  | 4.5                             | 3.6     | 6.4                  | 11.0 (1.4)           | 14.5 (2.4)             |
| Not Hispanic or Latino:                             |                                 |         |                      |                      |                        |
| White only  | ---                             | ---     | 5.2                  | *9.8 (2.0)           | *12.0 (3.6)            |
| Black or African American only                      | ---                             | ---     | 11.2                 | 17.0 (1.6)           | 22.1 (3.3)             |
| Mexican   | ---                             | ---     | 9.8                  | 15.3 (2.5)           | 19.6 (3.1)             |
| 12–19 years of age                                  |                                 |         |                      |                      |                        |
| Both sexes <sup>5</sup>                             | 4.6                             | 6.1     | 5.0                  | 10.5 (0.9)           | 15.5 (1.2)             |
| Boys  | 4.5                             | 6.1     | 4.8                  | 11.3 (1.3)           | 15.5 (1.6)             |
| Not Hispanic or Latino:                             |                                 |         |                      |                      |                        |
| White only  | ---                             | ---     | 3.8                  | 11.6 (1.9)           | 13.0 (2.5)             |
| Black or African American only                      | ---                             | ---     | 6.1                  | 10.7 (1.4)           | 20.5 (2.6)             |
| Mexican   | ---                             | ---     | 7.7                  | 14.1 (1.8)           | 27.5 (3.0)             |
| Girls <sup>6</sup>                                  | 4.7                             | 6.2     | 5.3                  | 9.7 (1.1)            | 15.5 (1.6)             |
| Not Hispanic or Latino:                             |                                 |         |                      |                      |                        |
| White only  | ---                             | ---     | 4.6                  | 8.9 (1.7)            | 12.2 (2.1)             |
| Black or African American only                      | ---                             | ---     | 10.7                 | 16.3 (2.1)           | 25.7 (2.6)             |
| Mexican   | ---                             | ---     | 8.8                  | *13.4 (3.1)          | 19.4 (2.8)             |

\* Estimates are considered unreliable. Data preceded by an asterisk have a relative standard error of 20–30 percent.

--- Data not available.

<sup>1</sup>Persons of Mexican origin may be of any race. Starting with data year 1999 race-specific estimates are tabulated according to 1997 Standards for Federal data on Race and Ethnicity and are not strictly comparable with estimates for earlier years. The two non-Hispanic race categories shown in the table conform to 1997 Standards. The 1999–2000 race-specific estimates are for persons who reported only one racial group. Prior to data year 1999, data were tabulated according to 1977 Standards. Estimates for single race categories prior to 1999 included persons who reported one race or, if they reported more than one race, identified one race as best representing their race. The effect of the 1997 Standard on the 1999–2000 estimates can be seen by comparing 1999–2000 data tabulated according to the two Standards: Estimates based on the 1977 Standards of the percent of the children 6–11 years who were overweight are: 0.1 percentage points higher for white males; 0.5 percentage points lower for black males; 0.4 percentage points lower for white females; and 0.1 percentage points higher for black females than estimates based on the 1997 Standards. Estimates based on the 1977 Standards of the percent of adolescents 12–19 years of age who were overweight are: 0.2 percentage points lower for white males; 0.2 percentage points higher for black males; 0.2 percentage points higher for white females; and 0.9 percentage points higher for black females than estimates based on the 1997 Standards. See Appendix II, Race.

<sup>2</sup>Data for 1963–65 are for children 6–11 years of age; data for 1966–70 are for adolescents 12–17 years of age, not 12–19 years.

<sup>3</sup>Data for Mexicans are for 1982–84. See Appendix I, National Health and Nutrition Examination Survey (NHANES).

<sup>4</sup>Standard errors of estimates for 1988–94 and 1999–2000 are shown. 1999–2000 estimates are based on a smaller sample size than estimates for earlier time periods and therefore are subject to greater sampling error.

<sup>5</sup>Includes persons of all races and Hispanic origins, not just those shown separately.

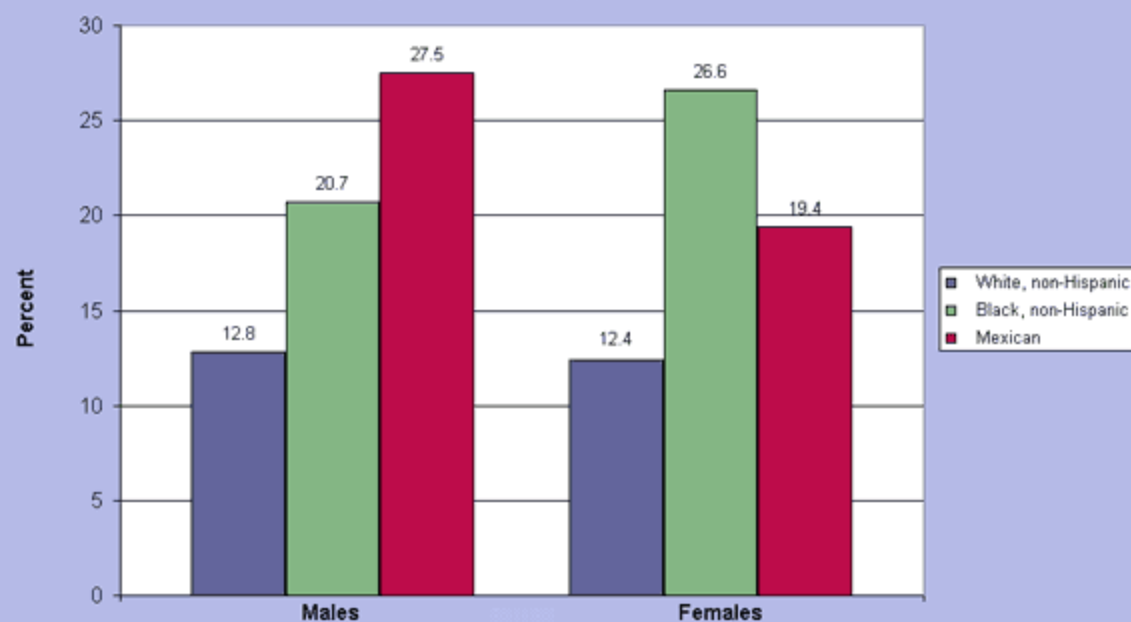
<sup>6</sup>Excludes pregnant women starting with 1971–74. Pregnancy status not available for 1963–65 and 1966–70.

NOTES: Overweight is defined as body mass index (BMI) at or above the sex- and age-specific 95th percentile BMI cutoff points from the 2000 CDC Growth Charts: United States. Advance data from vital and health statistics; no 314. Hyattsville, Maryland: National Center for Health Statistics. 2000. Age is at time of examination at mobile examination center. Crude rates, not age-adjusted rates, are shown. Some data for 1976–80, 1988–94, and 1999–2000 have been revised and differ from the previous edition of *Health, United States*.

SOURCES: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health and Nutrition Examination Survey, Hispanic Health and Nutrition Examination Survey (1982–84), and National Health Examination Survey (1963–65 and 1966–70).

Figure 2

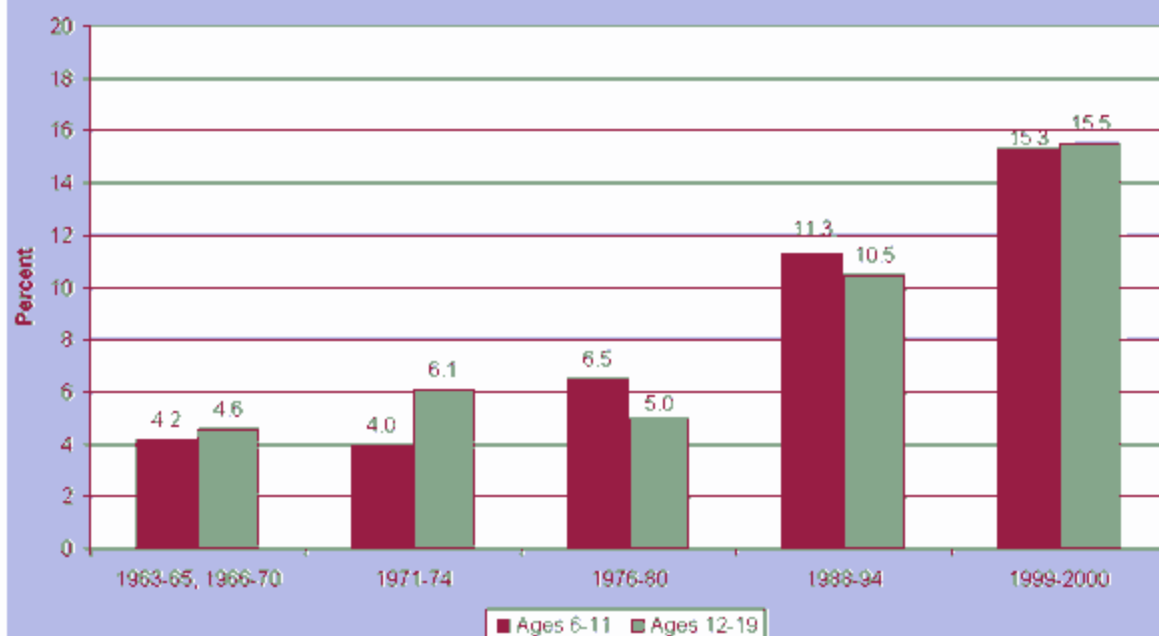
**Percentage of Overweight Males and Females Ages 12-19  
by Race/Ethnicity, 1999-2000**



Source: National Center for Health Statistics. *Health United States 2002 with Chartbook on Trends in the Health of Americans*. Hyattsville, Maryland: 2002; Table 71. Available online at <http://www.cdc.gov/nchs/htus.htm>



Figure 1

**Percent of Overweight Children Ages 6-19, Selected Years 1963-2000**

Source: National Center for Health Statistics. *Health United States 2002 with Chartbook on Trends in the Health of Americans*. Hyattsville, Maryland: 2002. Table 71. Available online at <http://www.cdc.gov/nchs/hsus.htm>

Child **TRENDS**  
DATABANK

Table 1

**Percent of Children Who Are Overweight**

|   | 1963-65<br>1966-70 <sup>1</sup> | 1971-74 | 1976-80 <sup>2</sup> | 1988-94 | 1999-2000 |
|---|---------------------------------|---------|----------------------|---------|-----------|
| <b>Ages 6-11</b>  | 4.2                             | 4.0     | 6.5                  | 11.3    | 15.3      |
| <b>Male</b>   | 4.0                             | 4.3     | 6.6                  | 11.6    | 16.0      |
| <b>Race/Ethnicity</b>   |                                 |         |                      |         |           |
| <b>White, non-Hispanic</b>  | -                               | -       | 6.1                  | 10.7    | *12.0     |
| <b>White, non-Hispanic only<sup>3</sup></b>                                     | -                               | -       | -                    | -       | *11.9     |
| <b>Black, non-Hispanic</b>  | -                               | -       | 6.8                  | 12.3    | 17.1      |
| <b>Black, non-Hispanic only<sup>3</sup></b>                                     | -                               | -       | -                    | -       | 17.6      |
| <b>Mexican</b>  | -                               | -       | 13.3                 | 17.5    | 27.3      |
| <b>Female<sup>4</sup></b>   | 4.5                             | 3.6     | 6.4                  | 11.0    | 14.5      |
| <b>Race/Ethnicity</b>   |                                 |         |                      |         |           |
| <b>White, non-Hispanic</b>  | -                               | -       | 5.2                  | *9.8    | *         |
| <b>White, non-Hispanic only<sup>3</sup></b>                                     | -                               | -       | -                    | -       | *12.0     |
| <b>Black, non-Hispanic</b>  | -                               | -       | 11.2                 | 17.0    | 22.2      |
| <b>Black, non-Hispanic only<sup>3</sup></b>                                     | -                               | -       | -                    | -       | 22.1      |
| <b>Mexican</b>  | -                               | -       | 9.8                  | 15.3    | 19.6      |
| <b>Ages 12-19</b>   | 4.6                             | 6.1     | 5.0                  | 10.5    | 15.5      |
| <b>Male</b>   | 4.5                             | 6.1     | 4.8                  | 11.3    | 15.5      |
| <b>Race/Ethnicity</b>   |                                 |         |                      |         |           |
| <b>White, non-Hispanic</b>  | -                               | -       | 3.8                  | 11.6    | 12.8      |
| <b>White, non-Hispanic only<sup>3</sup></b>                                     | -                               | -       | -                    | -       | 13.0      |
| <b>Black, non-Hispanic</b>  | -                               | -       | 6.1                  | 10.7    | 20.7      |
| <b>Black, non-Hispanic only<sup>3</sup></b>                                     | -                               | -       | -                    | -       | 20.5      |
| <b>Mexican</b>  | -                               | -       | 7.7                  | 14.1    | 27.5      |
| <b>Female<sup>4</sup></b>   | 4.7                             | 6.2     | 5.3                  | 9.7     | 15.5      |
| <b>Race/Ethnicity</b>   |                                 |         |                      |         |           |
| <b>White, non-Hispanic</b>  | -                               | -       | 4.6                  | 8.9     | 12.4      |
| <b>White, non-Hispanic only<sup>3</sup></b>                                     | -                               | -       | -                    | -       | 12.2      |
| <b>Black, non-Hispanic</b>  | -                               | -       | 10.7                 | 16.3    | 26.6      |
| <b>Black, non-Hispanic only<sup>3</sup></b>                                     | -                               | -       | -                    | -       | 25.7      |
| <b>Mexican</b>  | -                               | -       | 8.8                  | *13.4   | 19.4      |
| * Indicates that estimates are unreliable due to large relative standard errors |                                 |         |                      |         |           |
| "- "Indicates data not available  |                                 |         |                      |         |           |

<sup>1</sup> Data for 1963-65 are for children 6-11 years of age; data for 1966-1970 are for adolescents 12-17 years of

<sup>2</sup> Data for Mexicans are for 1982-84.

<sup>3</sup> These estimates have been revised to reflect the new OMB race definitions, and include only those who are identified with a single race.

<sup>4</sup> Excludes pregnant females starting with 1971-1974. Pregnancy Status not available for 1963-65/1966-70

Notes: Overweight is defined as body mass index (BMI) at or above the sex- and age-specific 95th percentile BMI cutoff points from the revised CDC Growth Charts: National Center for Health Statistics. 2000.

Source: Data for 1999-2000 White, non-Hispanic only and Black, non-Hispanic only estimates from National

Center for Health Statistics. *Health United States 2003 with Chartbook on Trends in the Health of Americans*. Hyattsville, Maryland: 2003: Table 69.

All other data from: National Center for Health Statistics. *Health United States 2002 with Chartbook on Trends in the Health of Americans*. Hyattsville, Maryland: 2002: Table 71. Available online at <http://www.cdc.gov/nchs/hus.htm>

